

DETAILED ACTION

Response to Arguments

1. The amendment filed 5/28/2009 have been entered and made of record.
2. The Applicant has canceled claim(s) 9.
3. The Applicant has included newly added claim(s) 12-13.
4. The application has pending claim(s) 1-8 and 10-13.
5. In response to the amendments filed on 5/28/2009:

The "Claim rejections under 35 U.S.C. 112, first paragraph" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 112, first paragraph. However the support for the claim limitation "normal ambient visible light imaging of the document without a need to use non-visible light lenses or filters" [see Applicant's remarks "As for the 112 rejection, the specification ..." in page 6] which Applicant refers to is indeed in the continuity application 08/508,083 07/27/1995 PAT 5,841,978 but is not in the continuity application PCT/US94/13366 11/16/1994.

Therefore the current application is entitled to the priority benefit of 07/27/1995 and not 11/16/1994. If the Applicant does choose to argue this decision, it is essential that the Applicant clearly point out where the support is found and how the interpretation is being conceived.

The "Claim rejections under 35 U.S.C. 101" have been entered and therefore the Examiner withdraws the rejections under 35 U.S.C. 101. *Further, the Examiner believes that method claim 1 is tied to an apparatus because decoding of the encoded data relying on a Fourier transform is inherently performed using a type of computer processor.*

Priority

6. The current claims of the application are not entitled to the benefit of the prior-filed application(s) corresponding to CON 08/508,083 7/27/1995 and PCT/US94/13366 11/16/1994 because the Examiner has not found support for the amended claim 1 limitations for example of "the plural-bit data comprises or links to information which limits the number of times the electronic version of the document may be accessed". The Examiner has decided that the current application is entitled to the benefit of only its own filing date 01/23/2004. **Therefore the current application is entitled to the priority benefit of 01/23/2004 and not 07/27/1995 and not 11/16/1994.** If the Applicant does choose to argue this decision, it is essential that the Applicant clearly point out where the support is found and how the interpretation is being conceived.
7. The Applicant's arguments with respect to claims 1-8 and 10-13 have been considered but are moot in view of the new ground(s) of rejection because the Applicant has amended independent claim(s) 1.

8. Applicant's arguments filed 5/28/2009 have been fully considered but they are not persuasive.

The Applicant alleges, "As for the art-based rejection of former claim 9 ..." in page 6, and states respectively that there is no suggestion of success for such a combination of Sheng with Stephany. In response to Applicant's argument that there is no reasonable expectation of success, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, *Stephany discloses plural-bit auxiliary data / bar code data* (see Stephany, col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code printing and reading system creates a bar code which represents information providing document identification) and *Sheng discloses the plural-bit auxiliary data / pattern [this pattern could be implemented as Stephany's bar code data with predictable results]* is encoded such that decoding of the encoded plural-bit auxiliary data *relies on a Fourier transform / Fourier-Mullin that produces data in which scale and rotation can be ignored / scale and rotation invariant* (see Sheng, abstract, to achieve scale and rotation invariant pattern recognition, the pattern is transformed by the Fourier-Mellin transform). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stephany's method, using Sheng's teachings, by including Sheng's pattern Fourier transform manipulation to Stephany's

bar code pattern in order to have the bar code pattern become scalably and rotationally invariant (see Sheng, abstract).

The Applicant alleges, "Claim 1 also recites ..." in page 6, and states respectively that the amended limitations "the plural-bit data comprises or links to information which limits the number of times the electronic version of the document may be accessed" is not understood to be rendered obvious by Sheng and Stephany. The Examiner agrees, but the new prior art reference Ginter et al (US 6,185,683 B1) does render such a limitation in combination as obvious. More specifically Stephany discloses providing the document onto a substrate / paper type (see Stephany, col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code representing the document is printed on a package, mail, or magazine), the provided substrate being steganographically encoded with plural-bit auxiliary data (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code which is plural-bit auxiliary data is steganographically or invisibly printed, the invisible bar code is not visible to the human eye) and Ginter discloses that this steganographically marked document has many uses, one of which comprises or links to information which limits the number of times / certain number of handlings the electronic version of the document may be accessed (see Ginter, abstract at lines 6-9 and 14-17, col. 6 at lines 18-26, col. 8 at lines 38-46, the printed or imaged documents can be marked using electronic watermarking and/or steganography and the systems and techniques have many uses including but not limited to secure document delivery wherein e.g. the document can only be viewed a certain number of handlings). Therefore it would have been obvious to one of ordinary skill in the art at the time the

invention was made to further modify Stephany's method, as modified by Sheng, using Ginter's teachings, by including to Stephany's steganographically marked document Ginter's steganographically marked document persistent electronic rules [allowing the document to be viewed a certain number of handlings] in order to provide a secure, automated, cost effective electronic control for document handling and/or delivery (see Ginter, abstract at lines 6-9 and 14-17, col. 6 at lines 18-26, col. 8 at lines 38-46).

Therefore the current claims are still not in condition for allowance because they are still not patentably distinguishable over the prior art references.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and

the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

10. Claim(s) 12 is/are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 12 defines a programmed computing device embodying functional descriptive material (i.e., a computer program or computer executable code). However, the claim does not define a "computer-readable medium or computer-readable memory" and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program. The examiner suggests amending the claim(s) to embody the program on "computer-readable medium" or equivalent; assuming the specification does NOT define the computer readable medium as a "signal", "carrier wave", or "transmission medium" which are deemed non-statutory (refer to "note" below). More specifically, the Examiner suggests amending claim 12 to resemble claim 13, or just cancelling claim 12 since claim 13 is statutory subject matter under 35 U.S.C. 101. Any amendment to the claim should be commensurate with its corresponding disclosure.

Note:

"A transitory, propagating signal ... is not a "process, machine, manufacture, or composition of matter." Those four categories define the explicit scope and reach of

subject matter patentable under 35 U.S.C. § 101; thus, such a signal cannot be patentable subject matter." (*In re Nuijten*, 84 USPQ2d 1495 (Fed. Cir. 2007)). Should the full scope of the claim as properly read in light of the disclosure encompass non-statutory subject matter such as a "signal", the claim as a whole would be non-statutory. Should the applicant's specification define or exemplify the computer readable medium or memory (or whatever language applicant chooses to recite a computer readable medium equivalent) as statutory tangible products such as a hard drive, ROM, RAM, etc, **as well as** a non-statutory entity such as a "signal", "carrier wave", or "transmission medium", the examiner suggests amending the claim to **include** the disclosed tangible computer readable storage media, while at the same time **excluding** the intangible transitory media such as signals, carrier waves, etc.

Merely reciting functional descriptive material as residing on a tangible medium is not sufficient. If the scope of the claimed medium covers media other than "computer readable" media (e.g., "a tangible media", a "machine-readable media", etc.), the claim remains non-statutory. The full scope of the claimed media (regardless of what words applicant chooses) should not fall outside that of a computer readable medium.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-8 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephany (US 5,331,140, as applied in previous Office Action), in view of Sheng ("Experiments on pattern recognition using invariant Fourier-Mellin descriptors", 1986 Optical Society of America, pages 771-776, as applied in previous Office Action) and Ginter et al (US 6,185,683 B1). [Applicant is directed to section 6 - Priority - of this Office Action because the current claims are only given priority to 01/23/2004 as has been discussed]

Re Claim 1: Stephany discloses a method comprising using an electronic application program / bar code printing and reading system to compose an electronic version of a document (see Stephany, col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code printing and reading system creates a bar code which represents information providing document identification); providing the document onto a substrate / paper type (see Stephany, col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code representing the document is printed on a package, mail, or magazine), the provided substrate being steganographically encoded with plural-bit auxiliary data (see Stephany, col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code which is plural-bit auxiliary data is steganographically or invisibly printed, the invisible bar code is not visible to the human eye), the steganographically encoded plural-bit auxiliary data is substantially imperceptible to casual human inspection, but is detectable through normal ambient visible light imaging of the document without a need to use non-visible light lenses or

filters, and processing of image data thereby produced (see Stephany, col. 1, lines 60-64, col. 2, lines 59-61, col. 3, lines 49-65, and specifically col. 3, lines 60-62 [providing light at visible wavelengths], the bar code scanning system may provide light at visible wavelengths to read the invisible plural-bit auxiliary bar code).

Although Stephany fails to specifically disclose storing in electronic or magnetic memory at least some of the plural-bit auxiliary data in association with data identifying a location at which the electronic version of the document is stored, [*the Examiner takes Official Notice that*] it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a feature because any bar code system needs some type of memory storing a library correlating the particular bar code to its particular item [each item of merchandising goods] to be identified in order to be able to locate the representation and meaning of the bar code when the bar code is read [DeAngelis [US 4,654,482, as applied in previous Office Action] is one example showing how a bar code read system uses a wand to read a bar code and correlate it to a specific item] (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the bar code [the bar code is the electronic version] which represents information providing document identification for a specific merchandising item [from a catalog for example] is scanned with a wand bar code reader [*this is the at least one configured multi-purpose electronic processor that is cooperating with the electronic version of the document*] that reads the bar code from the printed material and using the processor correlates the plural auxiliary bar code data to a location in this *electronic or magnetic* ROM and RAM *memory* with the corresponding recognition data for each specific

merchandising item).

However Stephany doesn't explicitly suggest wherein the plural-bit auxiliary data is encoded such that decoding of the encoded plural-bit auxiliary data relies on a Fourier transform that produces data in which scale and rotation can be ignored, and in which the plural-bit data comprises or links to information which limits the number of times the electronic version of the document may be accessed.

Sheng discloses the plural-bit auxiliary data / pattern [this pattern could be implemented as Stephany's bar code data with predictable results] is encoded such that decoding of the encoded plural-bit auxiliary data relies on a Fourier transform / Fourier-Mullin that produces data in which scale and rotation can be ignored / scale and rotation invariant (see Sheng, abstract, to achieve scale and rotation invariant pattern recognition, the pattern is transformed by the Fourier-Mellin transform).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stephany's method, using Sheng's teachings, by including Sheng's pattern Fourier transform manipulation to Stephany's bar code pattern in order to have the bar code pattern become scalably and rotationally invariant (see Sheng, abstract).

However Stephany as modified by Sheng doesn't explicitly suggest in which the plural-bit data comprises or links to information which limits the number of times the electronic version of the document may be accessed.

Ginter discloses that this steganographically marked document has many uses, one of which comprises or links to information which limits the number of times / certain

number of handlings the electronic version of the document may be accessed (see Ginter, abstract at lines 6-9 and 14-17, col. 6 at lines 18-26, col. 8 at lines 38-46, the printed or imaged documents can be marked using electronic watermarking and/or steganography and the systems and techniques have many uses including but not limited to secure document delivery wherein e.g. the document can only be viewed a certain number of handlings).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Stephany's method, as modified by Sheng, using Ginter's teachings, by including to Stephany's steganographically marked document Ginter's steganographically marked document persistent electronic rules [allowing the document to be viewed a certain number of handlings] in order to provide a secure, automated, cost effective electronic control for document handling and/or delivery (see Ginter, abstract at lines 6-9 and 14-17, col. 6 at lines 18-26, col. 8 at lines 38-46).

Re Claim 2: Stephany further discloses the providing includes steganographically encoding the provided substrate with said plural-bit auxiliary data (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code representing information providing document identification is steganographically or invisibly printed on a package, mail, or magazine, the invisible bar printed bar code is not visible to the human eye).

Re Claims 3-6: Although Stephany fails to explicitly disclose said storing includes

storing in a registry database maintained by an operating system of said computer system, wherein said storing is performed by the application program, said storing is performed by a computer system operating system, or wherein said storing is performed by a printer driver employed in printing the document onto paper, [the Examiner takes Official Notice that] it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such features because any bar code system needs some type of memory [the memory may be a database run by a computer operating system, the memory may be performed by a program within the computer operating system, the memory may be within the driver of the printer itself, etc.] storing a database or library correlating the particular bar code to its particular item to be identified in order to be able to locate the representation and meaning of the bar code when the bar code is read (DeAngelis [US 4,654,482, as applied in previous Office Action] is one example showing how a bar code read system uses a wand to read a bar code and correlate it to a specific item and showing different means of storage). In regards to claim 3, DeAngelis teaches the storing of claim 1 including storing in a registry database maintained by an operating system of a computer system (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary bar code data to a location in this ROM and RAM memory with the corresponding recognition data for each specific merchandising item, this processor is considered to be part of the computer operating system which essentially has a database for the different merchandising items with their corresponding bar codes). In regards to claim 4, DeAngelis similarly teaches the storing is performed by

the application program (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary bar code data to a location in this ROM and RAM memory with the corresponding recognition data for each specific merchandising item, this processor [which runs by a program] is considered to be part of the computer operating system). In regards to claim 5, DeAngelis similarly teaches the storing of claim 1 is performed by a computer system operating system (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary bar code data to a location in this ROM and RAM memory with the corresponding recognition data for each specific merchandising item, this processor is considered to be part of the computer operating system). In regards to claim 6, DeAngelis teaches the storing of claim 1 is performed by a printer driver employed in printing the document onto a substrate (see DeAngelis, col. 1, lines 11-16, col. 2, lines 22-28, the catalog for example with the merchandising items and with their corresponding bar codes *had to be printed by a computer system which is connected to a printer system* which essentially stores the bar code electronic version providing document identification for a specific merchandising item). To further clarify the Official Notice toward claim 6, the prior art reference Petigrew et al [US 5,206,490, as applied in previous Office Action] discloses a bar code printer for printing bar codes that are at the extremes of the visible light spectrum and that the printed ink is either invisible to the human eye or barely distinguishable over the background (see Petigrew, col. 2, lines 37-53, col. 3, lines 64-65, ink jet digital printers have drivers and memory components and therefore this invisible bar code printer needs to store what is to be printed which is

the invisible bar code).

Re Claim 7: Stephany further discloses the steganographic encoding of the provided substrate comprises subtle variations in the luminance of the document (see col. 1, lines 60-64, col. 3, lines 60-65, invisible bar codes could be printed in the visible light such as while still being invisible to the casual human eye inspection).

Re Claim 8: Stephany further discloses the steganographic encoding takes the form of tiny elements of ink or toner distributed in a pattern so light as to be essentially unnoticeable (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the printer prints the steganographic or invisible bar code that is invisible to the human eye).

Re Claim 10: Sheng further discloses the Fourier transform comprises a Fourier-Mellin transform / Fourier-Mellin (see Sheng, abstract).

Re Claim 11: Ginter further discloses the plural-bits of auxiliary data are steganographically encoded with digital watermarking (see Ginter, abstract at lines 6-9, col. 27 at lines 29-50, electronic watermarking and/or steganography). [Petigrew et al (5,206,490, as applied in previous Office Action) is another reference that discloses the plural-bits of auxiliary data / bar code data are steganographically encoded / invisible to the human eye with digital watermarking / printing with ink jet digital printer (see Petigrew, col. 2, lines 33-53, col. 3, lines 64-65, the bar code is invisibly printed on the

paper with an ink jet digital printer and this computer system and ink jet digital printer show that it is essentially digital watermarking).]

As to claim 12, the claim is the corresponding programmed computing device claim of claim 1 respectively. The discussions are addressed with regard to claim 1.

As to claim 13, the claim is the corresponding computer readable media claim of claim 1 respectively. The discussions are addressed with regard to claim 1.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bernard Krasnic/
August 29, 2009